

An Atlantean Group?

Species of terrestrial arthropods peculiar to our country are rare, and particularly so if we consider groups which have had an equal or greater attention from Continental naturalists. Since the pioneer work of Newport, Leach, and (later) Meinert and Latzel, the Central and Southern European "Myriapods" have received close study, whilst until very recently the British forms have been entirely neglected. Yet here we have a natural group containing four species* widely distributed in this country, not extraordinarily small and without any near relatives on the Continent. If the group had its centre of distribution in Western Europe, then it would have spread east and south, and remnants would have surely been found on the Continent of to-day. Similarly, were the group of Lusitanian origin it would be more richly represented in the Mediterranean subregion than with us. But not only is *Brachychæteuma* or allied genus unknown elsewhere, but its distribution with us (north, south, midlands, east, and west of England) does not suggest a Lusitanian group, and we are thus forced to suggest that *Brachychæteuma* is of Atlantean origin, and that in the very dim past it formed a modest member of the fauna of the old continent of Atlantis.

XII.—*New Species and Genera of Nymphalidæ, Syntomidæ, and Sphingidæ in the Joicey Collection.* By W. J. KAYE, F.E.S.

Family Nymphalidæ.

The confusion over certain species of *Callithea* is considerable, and as a foreword to the description of the new forms that follow it is as well to state the position adopted. *Callithea davisi* was described by Butler (Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 123, 1877), as Hewitson had confused two species under one name—*markii*. Fig. 2 of Hewitson (Ex. Butt., *Callithea*, pl. i.)—the first under the species—becomes

* For description of the fourth species see Brade-Birks, Hilda K. and Rev. S. G., "Notes on Myriapods.—XII. A Preliminary List for Derbyshire, with a Description of *Brachychæteuma quartum*, sp. n., and *Chordeumella scutellare bagnalli*, var. n.," Ann. & Mag. Nat. Hist. ser. 9, xi. pp. 319-336, figs., Oct. 1918.

the type of the species *markii*, and fig. 5 is another species which Butler named *davisi*. This was all correct till Staudinger, not knowing of Butler's description, described this same insect as *hewitsoni* in Exot. Tag. i. p. 123 (1888). Staudinger also gave the name *wallacei* to Hewitson's figs. 2, 3, 6, but quite unjustifiably. *C. davisi* now seems to have several local races, of which I describe below two as new. The *C. refulgens* may be a race of *markii*. *C. batesi* is most probably a distinct species, with the hind margin of the hind wing bluish green and the broad apical area of fore wing of the same colour. The ♀♀ of *batesi* and *markii* may be distinguished by these characters and also by the amount of yellow at the base of the hind wing. *Batesi* has a large yellow area stretching halfway across the cell, while *markii* has a very small amount and much broken up with brown. The synonymy of these three species is as follows:—

Callithea markii, Hew. Ex. Butt., *Call.* i. publ. 1862 (plate dated 1857, ined.).

Callithea wallacei, Stgr. Ex. Tag. i. p. 123 (1888).

Callithea markii (= *wallacei*), Rüb. in Seitz. Mac. Lep. v. p. 491 (1915).

Hab. Upper Amazons, Teffé.

Callithea batesi, Hew. Trans. Ent. Soc. i. pl. xi. (1850).

Callithea batesi, Hew. Ex. Butt., *Callithea*, pl. i. figs. 1, 4 (1862); Rüb. in Seitz. Mac. Lep. v. p. 491 (1915).

Hab. Upper Amazons.

Callithea davisi, Butl. Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 123 (1877).

Callithea markii, Hew. (part.), Exot. Butt., *Call.* pl. i. fig. 5 (1862).

Callithea hewitsoni, Stgr. Exot. Tag. i. p. 123 (1888); Rüb. in Seitz. Mac. Lep. v. p. 491 (1915).

Hab. Colombia, Upper Amazons, Peru.

This species has at least three separate races:—

Callithea davisi davisi, Butl.

Colombia.

Callithea davisi croceus, Kaye.

N. Peru, Contamana, Rio Ucayali.

Callithea davisi tirapatensis, Kaye.

S. Peru, Tirapata.

Ann. & Mag. N. Hist. Ser. 9. Vol. iv.

7

Callithea davisii croceus, subsp. n.

Fore wing ochreous with a slight pinkish tinge. Broad apical area black except near costa, which is deep blue. Inner margin black with only very slight suffusion near base. Hind wing purplish blue, with the area about tornus brightest.

Expanse 62 mm.

Hab. Ecuador, Sarayacu, Upper Amazons, Jurua.

This subspecies is very like *davisii davisii*, except for the yellow fore wing. The next following subspecies from South Peru is much further removed.

Type in Coll: Joicey.

Callithea davisii tirapatensis, subsp. n.

Fore wing yellowish ochreous, the inner margin blackish extending basally into the cell. Apical area black, with hardly a trace of blue, and the small apical greenish streak often with a whitish area in centre. Hind wing black, with a conspicuous blue patch at tornus extending beyond vein 2 internally and beyond vein 4 externally. Fore wing below with the lower part of the greenish apical area blackish internally.

Expanse 62 mm.

Hab. S. Peru, Tirapata, Yahuar Mayo.

Type in Coll. Joicey.

Callithea refulgens, sp. n.

♂. Fore wing like *markii*, Hew., but the blue of the distal half deeper internally and lighter externally and in costal area. The base pinkish ochreous inclining to reddish. The apex dull blackish, with a narrow subapical slaty green band. The whole broad distal half or more of the wing various shades of deep brilliant blue, becoming blackish internally and on the inner margin. Hind wing with a faint indication of a slaty greenish subterminal band mostly obscured by the deep blue of the ground-colour. Costa dull blackish, without a basal or subbasal orange patch. Inner margin broadly and outer margin narrowly dull blackish. Blue area of hind wing brightest between veins 2 and 4. Fore wing below with the basal area ochreous; tornus, except at extreme margin and along veins for a short distance, blackish. A pair of small black spots between veins 4, 5 and 5, 6. Broad apical area glistening slaty blue. Hind wing below with an ochreous basal stripe. Ground-colour slaty bluish, with four transverse rows of black spots in distal half, the two outermost spots at apex suffused with ochreous.

Expanse 60 mm.

Hab. Brazil, Parana (?).

This locality is more than questionable. Typical *markii* occurs at Ega, on the Upper Amazon, and it is even possible the present species may be an aberration of it. Hewitson's locality for *markii* is New Grenada, but as he figures both *davisi* and *markii* under the same name, his locality probably refers to the *davisi*, which is a Colombian species. His fig. 2 on pl. i., *Callithea* in Ex. Butt., agrees with what is known from the Ega district of the Amazon.

Type in Coll. Joicey.

Family Nymphalidæ.

Subfamily ITHOMINÆ.

Velamysta pardalis totumbra, subsp. n.

♂. Fore wing like *pardalis pardalis*, except that there are no blackish marks in disc and the S-shaped black discoidal mark is much less pronounced. Inner margin less heavily black. Hind wing ochre-brownish as in fore wing, without discoidal patch and no trace of a black band thence to inner margin.

♀. Both fore and hind wing ochre-brownish. Fore wing with all the black markings less than in *pardalis pardalis*. Hind wing with a small black mark along discocellular within the cell. No black band connecting the inner margin.

Expanse 74 mm.

Hab. N. Peru, River Tabaconas, 6000 ft. (*A. E. & F. Pratt*).

Type in Coll. Joicey.

Haensch, in Seitz. vol. v. p. 158, says of *pardalis*:—"In the ♀ the hind wing is of the same brownish colour as the fore wing." This is incorrect, as in both *pardalis pardalis* and *pardalis totumbra* the sexes are alike as to colour; *pardalis* has white hind wings and *totumbra* brownish.

Family Syntomidæ.

Mimagyrta chocoensis, sp. n.

Head blue-black; palpi black; frons white; antennæ black; legs with coxæ white and white stripes on femur and tibia; tarsus wholly black. Abdomen bluish black, with slender subdorsal white streaks, below white. Fore wing bluish black shot with bright blue at base; a hyaline subapical narrow patch with veins 3, 4, and 5 showing black across it. A triangular flat hyaline streak below the cell, with its sharp apex pointing to base and its short side against vein 2. Hind wing shot with brilliant blue, the apex blackest

and with least gloss; a large hyaline transverse area occupying the central area of wing and with the median and veins 3 and 4 showing black upon it.

Expanse 30 mm.

Hab. W. Colombia, Tado, Rio San Juan, Choco, Colombia, 250 ft. (*G. M. Palmer*), June 1909.

Type in Coll. Joicey.

Pseudomelisa demiavis, sp. n.

♀. Head blue-black, frons white and white patches at the sides of the eyes. Tegulæ and patagia black, with a few white hairs. Abdomen elongated, shiny dark blue. Legs dark bluish black. Fore wing dark steely blue. A small divided transparent spot in middle of cell; a long narrow transparent spot lying just outside cell close to base, and a series of fine irregularly shaped spots across disc to tornus. The upper one is between veins 5 and 6, the next two are close together and between veins 3, 4 and 4, 5. The next is the largest and is immediately below cell between veins 2, 3, and the last is placed just above vein 1*b*. Hind wing very small, dark steely blue except for a small transparent spot at base.

Expanse 35 mm.

Hab. W. Africa, Cameroons, Bitje, Ja River, 2000 ft., Oct.-Nov. 1912.

Type in Coll. Joicey.

Chrysocale olivotincta, sp. n.

Base of palpi white and some white scaling on fore coxæ. Frons black. Tegulæ with a few white scales. Thorax black. Abdomen black, with segments 3, 4, 5, 6 edged above with clayish ochreous and with a series of white dorsal spots on all the segments except the last, which is black. Fore wing dark olive-green, with an elongated transparent spot below the median. A faint indication of a white mark just above within the cell. Hind wing very dark olive-green, with a large wedge-shaped area below the cell transparent, but not reaching base or inner margin. A lateral series of white spots to abdomen and two or three ventral white spots. Legs black except for the white on fore coxæ.

Expanse 48 mm.

Hab. —?

The species looks as if it might have come from the same locality as *Chrysocale enigma*, but this is mere conjecture. This is a *Chrysocale* in all points of neuration, but there is no rough hair on the abdomen. It comes close to *Chrysocale*

chryseis, which appears in Hampson's 'Catalogue Phalænæ,' vol. i. under *Calonotos*.

Type in Coll. Joicey.

Cyanopepla fulgurata, sp. n.

Palpi black, with some white scales above, metallic green beneath. Frons, collar, tegulæ, and patagia metallic green. Thorax black, with metallic green, abdomen green. Fore wing black, with a rather narrow crimson band commencing below costa and finishing just before tornus. Between veins 4 and 5 a short metallic-green streak. At base extending nearly to discal band four metallic-green streaks. Cilia black, at tip white. Hind wing brilliant metallic blue. In the median area and on inner margin slightly paler. Cilia black on apical margin and white on inner margin.

Expanse 36 mm.

Hab. N. Peru, Paclitea.

This may be a race of *C. julia*, but it has slightly less elongated wings and a completely blue hind wing.

Type in Coll. Joicey.

Cyanopepla parvistria, sp. n.

Palpi black above, metallic green below. Collar and tegulæ metallic green; patagia black, with some metallic-green scaling. Abdomen metallic green. Fore wing black, with a very narrow discal crimson band. A minute green dot on costa at base and a metallic-green streak along vein 1*b* heavy at base. Hind wing deep metallic blue without any greenish shade.

Expanse 50 mm.

Hab. Unknown.

Type in Coll. Joicey.

ACUTIA, gen. nov.

Proboscis fully developed, but weak. Antennæ bipectinated. Spurs to mid tibiæ minute. Fore wing with vein 2 placed very far back. Veins 3 and 4 before angle, 5 from angle, 6 from middle of discocellulars, 7 from upper angle, 8 and 9 stalked, 10 and 11 from cell. Hind wing with 2 long before end of cell, 3 and 4 shortly stalked from angle of cell, 5 from middle of discocellulars.

Type, *A. bidensis*.

Acutia bidensis, sp. n.

♂. Fore wing very long and narrow, the base with a golden streak. Margin and apical half dark brownish black. A large transparent patch within the cell and a much larger double transparent patch immediately below. A small square transparent spot in apex, divided by vein 5. Hind wing small, greatly pointed at apex, yellow, with the apex rather broadly black. A small grey patch on costa. Abdomen segmented with yellow. Head black, collar orange. Thorax black, metathorax yellow.

♀. Similar to male, except that the transparent patches are much more yellowish. The hind wing larger, less pointed. The fore wing more ample.

Expanse 26 mm.

Hab. Sarawak, Bidi, 1907-8 (C. J. Brooks).

Type in Coll. Joicey.

Æthria tenumarginata, sp. n.

♂. Palpi black above, white beneath. Coxæ above white, beneath black. Frons with some white scales. Tegulæ mostly metallic blue, but with some white scales. Patagia metallic blue. Abdomen dark metallic bluish green, with a large crimson anal tuft. Fore wing bluish hyaline, with narrow black margins and narrow discoidal black spot. Hind wing bluish hyaline, with a narrow black margin hardly broader than the costal and inner margin of fore wing.

Expanse 27 mm.

Hab. French Guiana, St. Laurent.

Type in Coll. Joicey.

Phœnicoprocta variabilis, sp. n.

♂. Head black, frons metallic peacock-blue. Tegulæ with some metallic blue and orange scales. Patagia orange. Metathorax with a patch of blue. Abdomen with subdorsal stripe of metallic green. Anal tuft crimson. Antennæ black, bipectinated, under surface white at tips. Fore coxæ white below, crimson above. Mid and hind coxæ with some crimson hair. Fore wing dull brownish black, partly hyaline at base of cell and immediately below. Hind wing transparent, with a broad black margin.

Expanse 26 mm.

Ab. *melopatagia*.

Tegulæ and patagia black, with a few metallic-blue scales.

Hab. Panama, Bugaba.

Type in Coll. Joicey.

Pheia attenuata, sp. n.

Head black. Minute crimson dots behind the eyes. Tegulæ with bright crimson spots preceded by some metallic-green scaling. Base of patagia crimson. Abdomen black, with some metallic-green scaling. On first segment a pair of crimson dots. Fore wing black and transparent. Costa narrowly black. Apex rather broadly black and at tornus a rather heavy black area. Discoidal spot black. Hind wing transparent, the apex broadly black, inner margin narrowly black. Abdomen beneath with all but the last three segments white.

Expanse 26 mm.

Hab. Panama, Gatun, 1. ii. 1913 (*A. Hall*).

Type in Coll. Joicey.

Pheia simillima, sp. n.

Frons, tegulæ, collar, and vertex of head with metallic-green scaling. Thorax and patagia dark brownish black. Metathorax with metallic green. Second abdominal segment with subdorsal crimson spots. Abdomen black, with some metallic-green scaling, terminal segment crimson. Fore wing diaphanous, with margins and discocellular spot black. Apex rather broadly black and an extension inwards at tornus. Hind wing diaphanous, with outer margin narrowly black, greatly reduced between veins 2 and 4. Abdomen beneath with the first three segments covered by large white valve. Fore coxæ pink beneath.

Expanse 23 mm.

Hab. Upper Amazon, Rio Ucayali.

Type in Coll. Joicey.

Euagra monoscopa, sp. n.

Head, thorax, and abdomen dark peacock-blue. Fore wing with the base brilliant blue, the apex bluish black; a large trapezoidal transparent area between veins 2 and 3, bounded above by the wall of the cell and terminating just before outer margin. Hind wing deep brilliant blue, darkest near the outer margin.

Expanse 34 mm.

Hab. E. Ecuador, Alpayacu, Rio Pastazza (*M. G. Palmer*).

Type in Coll. Joicey.

This insect strongly recalls *Agyrta monopлага*, which has the same scheme of colouring and a hind wing without any transparent area.

Coreura sinerubra, sp. n.

Palpi with the basal joint orange. Collar orange. Thorax, tegulæ, and patagia dull greenish black. Abdomen dull metallic green. Fore wing dull greyish black, with a straight transverse pale yellowish narrow band across disc just touching the discocellulars and ending just short of the tornus. Hind wing rather dull greyish metallic green; cilia yellow. Fore wing below with the transverse yellowish band much wider than above. Hind wing below with the yellow colour of the cilia extending to margin of wing. Both wings dull blackish, with a slight metallic gloss.

Expanse 44 mm.

Hab. N. Peru, W. slope of Andes, 4000 ft. (*Pratt*).

Type in Coll Joicey.

Heliura quadriflavata, sp. n.

Head dark brownish black, collar orange. Thorax dark brownish black, metathorax with orange patch. Abdomen blackish. Fore wing olivaceous, with transparent patches. The base blackish, with a conspicuous orange spot. A long transparent area lying just beneath the cell and a triangular transparent area occupying the middle of the cell. The veins olivaceous and two γ -shaped olive marks on the inner margin. Four rectangular-shaped hyaline spots in pairs forming a discal band. The extreme tip of the wing whitish. Hind wing transparent, with the apex very broadly black and the inner margin much less narrowly black. Fore and hind wing below wholly black and transparent, without any violaceous tint. Coxæ pink and the basal half of mid and hind femora also pink.

Expanse 38 mm.

Hab. French Guiana.

Type in Coll. Joicey.

Napata levata, sp. n.

Frons bluish white. Bluish-white spots on gulæ, patagia, tegulæ, and behind the antennæ. Fore wing very dark olive-green, with a small hyaline spot at end of cell; a similar spot near base of cell, with a large semicircular spot immediately below the cell. Two pairs of spots on disc—one pair just beyond end of cell and the other pair between veins 3, 4 and 4, 5,—the smaller spot of the two here uppermost, while in the former case it is reversed. Hind wing with a large double basal hyaline spot and a hyaline spot in the cell, the rest of the wing dark olive-green. Metathorax with metallic-green spot. Abdomen with a pair of greenish-white spots on

first segment; the remaining segments metallic cupreous, with the segmental joints darker.

Expanse 46 mm.

Hab. E.C. Peru, Chanchamayo.

Type in Coll. Joicey.

Delphyre leucomela, sp. n.*

Fore coxæ orange, mid and hind coxæ black; palpi black; collar orange; thorax and abdomen black. Fore wing dark brownish black, with a semihyaline roundish discocellular spot; discal area paler brownish, with elongated black divided streaks along the veins; median area of wing blackish; a triangular semihyaline spot near base within the cell and a large elongated spot immediately below. Hind wing with the larger basal half semihyaline; a broad black marginal band, broadest at apex and narrowest at lower corner of cell. Underside of fore wing dull black except for hyaline spots; hind wing as above, except for some brownish scaling at outer margin.

Expanse 28 mm.

Hab. French Guiana.

Type in Coll. Joicey.

Family Sphingidæ.

TIMORIA, gen. nov.

Type, *T. concolorata*.

♂ ♀. Antenna slender, rather short, ending in a short hook and bristle at the apex. Tongue very long. Palpus rather short, not conspicuously protruding. Eyes large, not lashed. Wings long and rather narrow. Abdomen long. Legs long, without spines on tibiæ. Tarsi very heavily spined; mid and hind tarsi with long combs at base; first segment of hind tarsus very long, and longer than the other four joints together; hind tarsus altogether less than twice the length of the cell. Veins 6 and 7 of hind wing from angle of cell. Pulvillus and paronychium present, the latter with two flaps on each side.

Hab. Timor Laut.

The genus differs from *Meganoton* by the shorter antennæ and much shorter hook, the non-stalking of veins 6 and 7 of hind wing, and by the shorter and less robust legs; the palpus is also markedly smaller and less protruding.

Timoria concolorata, sp. n.

♀. Fore wing dull blackish brown, with small pale discal spot; several indistinct darker striæ; a dark brown elongated